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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,874	12/09/2003	Ruben F. Lah	9312.52	6740
21999 7590 05/26/2009 KIRTON AND MCCONKIE 60 EAST SOUTH TEMPLE, SUITE 1800 SALT LAKE CITY, UT 84111				
EXAMINER LEUNG, JENNIFER A				
ART UNIT		PAPER NUMBER		
1797				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/731,874

**Applicant(s)**

LAH, RUBEN F.

**Examiner**

JENNIFER A. LEUNG

**Art Unit**

1797

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,5-47 and 49-58 is/are pending in the application.
- 4a) Of the above claim(s) 11-46 and 53-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-10,47 and 49-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 17, 2009 has been entered.

***Response to Amendment***

2. Applicant's amendment filed on February 17, 2009 has been carefully considered. Claims 11-46 and 53-58 are withdrawn from consideration. Claims 2, 4 and 48 are cancelled. Claims 1, 3, 5-10, 47 and 49-52 are under consideration.

***Claim Objections***

3. Claims 49-51 are objected to because the claims each depend from cancelled claim 48. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 50 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (It is presumed that Applicant intended claim 50 to depend from claim 47). It is unclear as to how, "said seat support system comprises *dual, independent static seats* positioned on opposing sides of said valve closure", since claim 47 sets forth that one of the seats already

comprises a “live loaded seat”.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, 5-7, 9, 10, 47 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Payne et al. (US 2,403,608) in view of Richards (US 4,335,733).

Regarding claims 1, 3, 5-7, 9, 10 and 47, Payne et al. (see FIG. 1; column 2, line 25 to column 4, line 22) discloses an apparatus comprising: (a) a coke drum (i.e., coking chamber **1**) having at least one port therein, said coke drum capable of receiving molten petroleum residuum (i.e., which would flow from tubular heating furnace **2**); and (b) a de-header valve (i.e., closure **15**, comprising a sliding valve or other suitable closure; see column 2, line 47 to column 3, line 1) coupled to said port of said coke drum **1** for regulating the throughput of coked material **7**.

The apparatus of Payne et al. is the same as the instantly claimed apparatus, except Payne et al. is silent as to the valve **15** having the claimed configuration.

Richards (generally, FIGs. 1-11) discloses a valve **1** capable of being removably coupled to a drum (e.g., a hopper **3**; see FIG. 1), said valve comprising: (1) a main body having an orifice (i.e., defining inlet chamber **23** and outlet chamber **28**) dimensioned to align with a port of said drum when the valve is coupled thereto; (2) a valve closure (i.e., movable valve plate assembly **52**, defining a sliding blind; see FIG. 6) operably supported by said main body, said valve closure capable of being actuated to oscillate between an open and a closed position with respect

to said orifice and said port; (3) a seat support system structured to support said valve closure, said seat support system comprising dual independent seats positioned opposite one another on either side of the valve closure **52** and including a live loaded dynamic seat (i.e., floating wear plate **38**; FIG. 6) and a static seat (i.e., fixed wear plate **30**; see FIG. 6); wherein a continuously maintained metal-to-metal contact seal between said valve closure **52** and said seat support system **38,30** exists (i.e., at T-T; see column 5, lines 31-38; FIG. 11), said contact seal being capable of shearing accumulated solids upon actuation of the valve closure **52**. The valve **1** comprises a purge system operably connected to the main body, said purge system allowing a gas to be vented from the valve (i.e., via vent valve **109**; FIG. 9; column 63-64). The valve **1** further comprises an internal material isolation and containment system operably connected to the main body, wherein the material isolation and containment system allows the valve to be pressurized (see FIG. 9; column 7, lines 37-60; column 2, lines 33-45).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute the valve taught by Richards for the valve **15** in the apparatus of Payne et al., because the valve would have predictably provided a satisfactory means for isolating and regulating the flow of coked material from the coking chamber, given its suitability of use in handling liquids and abrasive materials under high pressure and high temperature, as taught by Richards (see column 2, lines 46-64; column 1, lines 31-36). Furthermore, the substitution of known equivalent structures involves only ordinary skill in the art, and when the prior art is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.

Regarding claim 51, the term “comprises” (line 2) is open-ended and does not exclude

additional, unrecited elements. Thus, the modified apparatus of Payne et al., which comprises a seat support system with two seats, meets the language of the claim.

6. Claims 1, 3, 5-8, 47 and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Payne et al. (US 2,403,608) in view of Fortune (US 3,367,625).

Regarding claims 1, 7 and 47, Payne et al. (see FIG. 1; column 2, line 25 to column 4, line 22) discloses an apparatus comprising: (a) a coke drum (i.e., coking chamber 1) having at least one port therein, said coke drum capable of receiving molten petroleum residuum (i.e., which would flow from tubular heating furnace 2); and (b) a de-header valve (i.e., closure 15, comprising a sliding valve or other suitable closure; see column 2, line 47 to column 3, line 1) coupled to said port of said coke drum 1 for regulating the throughput of coked material 7.

The apparatus of Payne et al. is the same as the instantly claimed apparatus, except Payne et al. is silent as to the valve 15 having the claimed configuration.

Fortune discloses a valve (generally, FIGs. 1-9) comprising: (1) a main body (i.e., valve body A, with circular wall 10 and flanges 8); (2) a valve closure (i.e., slideable gate 18, defining a sliding blind) operably supported by the main body, said valve closure capable of being actuated to oscillate between an open and a closed positioned; (3) a seat support system structured to support the valve closure, wherein said seat support system (see, e.g., FIGs. 3, 8, 9) comprises at least one live loaded seat (i.e., pressure actuated annular seat 24); wherein a continuously maintained metal to metal contact seal (i.e., at surfaces 25; see column 2, lines 9-16) exists between the valve closure and the seat support system, said contact seal being capable of shearing accumulated solids upon actuation of the valve closure (see column 7, line 68 to column 8, line 3).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute the valve taught by Fortune for the valve **15** in the apparatus of Payne et al., because the valve would have predictably provided a satisfactory means for isolating and regulating the flow of coked material from the coking chamber, given that the valve provides a drop-tight seal between the gate and the seats, and the valve seats are not subject to the problems of erosion and corrosion of the prior art, as taught by Fortune (see column 1, lines 13-20 and 60-65; column 2, lines 1-8). Also, the substitution of known equivalent structures involves only ordinary skill in the art, and when the prior art is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.

Regarding claims 3, 5, 6, 49 and 50, Fortune teaches that the valve comprises dual independent live loaded dynamic seats **24** (see FIG. 3) positioned on opposing sides of the valve closure **18**. Fortune further teaches that the valve comprises dual independent static seats (i.e., defined by the circular wall **10** itself; see FIG. 3) positioned on opposing sides of the valve closure **18**. Fortune further teaches at least one static seat (i.e., defined by the circular wall **10** itself; see FIG. 3) positioned opposite at least one live loaded seat **24**.

Regarding claims 8 and 52, Fortune teaches a main body **10** that is capable of contacting said valve closure **18** (i.e., by an appropriate degree of actuation of the hydraulic, pneumatic or mechanical pressurization means against seats **24**), and thereby functions as a seat in said seat support system.

Regarding claim 51, the term “comprises” (line 2) is open-ended and does not exclude additional, unrecited elements. Thus, the modified apparatus of Payne et al., which comprises a seat support system with two seats, meets the language of the claim.

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Payne et al. (US 2,403,608) in view of Fortune (US 3,367,625), as applied to claim 1 above, and further in view of Richards (US 4,335,733).

The combination of Payne et al. and Fortune fails to disclose the claimed purge system or internal material isolation system.

Richards, however, teaches a valve **1** comprising a purge system operably connected to the main body, said purge system allowing a gas to be vented from the valve (i.e., via vent valve **109**; FIG. 9; column 63-64). The valve **1** further comprises an internal material isolation and containment system operably connected to the main body, wherein the material isolation and containment system allows the valve to be pressurized (see FIG. 9; column 7, lines 37-60; column 2, lines 33-45).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a purge system and internal material isolation system for the valve in the modified apparatus of Payne et al., because the systems help minimize and avoid wear of the valve by preventing abrasive material from getting between the plates, and further allow for temperature control of the valve, as taught by Richards (see column 2, lines 33-45; column 8, lines 8-30, 38-50).

#### ***Response to Arguments***

8. Applicant's amendments to the independent claims and corresponding arguments with respect to the rejections of claims 1, 3, 5-10, 47 and 49-52 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, new grounds of rejection is made in view of the newly cited prior art.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. LEUNG whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A. Leung/  
Primary Examiner, Art Unit 1797